

**WHAT IS CLAIMED IS:**

1. A method for dynamically coordinating one or more product orders with product parts progressing through a manufacturing process flow, comprising:

identifying a first order for generating one or more lots of parts for manufacturing a first product, the first order identifying a predetermined base feature, one or more customer specific features, one or more order specific features, and the quantity of the first product;

assigning a smart code to the first order and the lots of parts, the smart code identifying an association between the first order and the lots of parts;

analyzing, based on the smart codes assigned thereto, whether one or more available lots of parts of a second order in production are ready to be converted to produce the first product; and

dynamically changing the smart code of the available lots to the smart code of the first order if the available lots of the second order are chosen to be further processed for fulfilling the first order.

2. The method of claim 1 wherein the analyzing further includes determining that the one or more available lots of parts and the first product are of the same base feature.

3. The method of claim 1 wherein the analyzing further includes determining that the one or more available lots of parts have not been processed to a point that they are prohibited from being converted into the first product.

4. The method of claim 1 wherein the analyzing further includes determining that the one or more available lots of parts either have the customer specific features or can incorporate the customer specific features.

5. The method of claim 1 further comprising when the first order is modified, analyzing whether one or more available lots of parts in production that can be converted to fulfill the need of the modification of the first order.

6. The method of claim 5 further comprising initiating new lots of the parts if needed based on the analyzing result.

7. A method for dynamically re-arranging one or more orders with one or more wafer lots progressing through a manufacturing process flow, comprising:

identifying a modification of a first order, the first order being for generating one or more wafer lots for manufacturing a first product, the first order identifying a predetermined base feature, one or more customer specific features, one or more order specific features, and the quantity of the first product, and the first order and the wafer lots being associated by a smart code;

analyzing, based on the smart codes assigned thereto, whether one or more available wafer lots of a second order in production are ready to be converted to satisfy the modified first order; and

dynamically changing the smart code of the available wafer lots to the smart code of the first order if the available wafer lots of the second order are

chosen to be further processed for satisfying the modified first order.

8. The method of claim 7 wherein the analyzing further includes determining that the one or more available wafer lots and the first product have the same base feature.

9. The method of claim 7 wherein the analyzing further includes determining that the one or more available wafer lots have not been processed to a point that they are prohibited from being converted into the first product.

10. The method of claim 7 wherein the analyzing further includes determining that the one or more available wafer lots either have the customer specific features or can incorporate the customer specific features.

11. The method of claim 7 further comprising initiating new wafer lots if needed based on the analyzing result.

12. A semiconductor manufacturing management system for dynamically coordinating one or more product orders with wafer lots progressing through a manufacturing process flow, the system comprising:

an order entry module for identifying a modification of a first order, the first order being for generating one or more wafer lots for manufacturing a first product and identifying a predetermined base feature, one or more customer specific features, one or more order specific features, and the quantity of the first product, the order entry module assigning a smart code to the first order and the

wafer lots for identifying an association therebetween;

a planning module for analyzing, based on the smart codes assigned thereto, whether one or more available wafer lots of a second order in production are ready to be converted to produce the first product; and

a smart code processing module for dynamically changing the smart code of the available lots to the smart code of the first order if the available lots of the second order are chosen to be further processed for fulfilling the changed first order.

13. The system of claim 12 wherein the planning module further includes an output planning system and a wafer picking system.

14. The system of claim 12 wherein the order entry module further includes a wafer start system for initiating wafer lots.

15. The system of claim 12 wherein the planning module further includes means for providing information about excessive wafer lots.

16. The system of claim 12 wherein the smart code processing module further includes means for determining that the one or more available wafer lots and the first product have the same base feature.

17. The system of claim 12 wherein the smart code processing module further includes means for determining that the one or more available wafer lots have not been processed to a point that they are prohibited from being converted

into the first product.

18. The system of claim 12 wherein the smart code processing module further includes means for reconfiguring the smart code for the available wafer lots of the second order when they are used to fulfill the first order.

19. The system of claim 12 wherein the smart code processing module further includes means for detecting the modification of the first order.

20. The system of claim 12 wherein the smart code processing module further includes means for confirming the modified first order.